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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/764,130	01/23/2004	Mohan R. Duggi	2003.08.010.WT0	6103

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EXAMINER
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BRANDT, CHRISTOPHER M

ART UNIT	PAPER NUMBER
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2617

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/10/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/764,130

Applicant(s)

DUGGI ET AL.

Examiner

Christopher M. Brandt

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/17/06</u>   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Priority*

Receipt is acknowledged of papers submitted claiming the benefit of U.S. Provisional Application No. 60/497,274 filed on August 22, 2003, which papers have been placed of record in the file.

The information disclosure statement submitted on July 17, 2006 has been considered by the Examiner and made of record in the application file.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 1-20** are rejected under 35 USC 103(a) as being unpatentable over **Whitehill et al. (US PG PUB 2002/0191573 A1)** in view of **Lipasti et al. (US PG PUB 2002/0039357 A1)**.

Consider **claim 1**. Whitehill et al. (hereinafter Whitehill) disclose for use in a mobile ad hoc network formed by a plurality of mobile ad hoc network (MANET) nodes, a first MANET node capable of routing data packets (paragraph 28, read as the network 100 can be an ad-hoc packet switched network, which includes a plurality of mobile nodes 102-1), said first MANET node comprising:

a radio frequency (RF) transceiver capable of wirelessly communicating with other ones of said plurality of MANET nodes (paragraph 29, read as shown in FIG. 3, each mobile node 102, fixed node 106 or wireless router 107 includes a modem which is essentially a transceiver 108 including a transmitter and a receiver, which collectively can be referred to as a modem, and which are coupled to an antenna 110 and capable of respectively transmitting and receiving signals, such as packetized data signals, under the control of a controller 112); and

a controller capable of receiving incoming data packets from said RF transceiver and sending outgoing data packets to said RF transceiver, wherein said controller is further capable of receiving a first data packet from an Internet protocol (IP) layer associated with said first MANET node, determining a first medium access control (MAC) layer address associated with said first data packet (paragraphs 8 and 9, read as in a typical MANET protocol stack, the MAC

Layer 14 is specified in the IEEE 802.11 standard for wireless local area networks (LANs) and utilizes a Carrier Sense Multiple Access with Collision Avoidance (CSMA/CA) protocol. As can be appreciated by one skilled in the art, the CSMA/CA protocol may involve initial handshakes of a Request-to-Send (RTS) message followed by a Clear-to-Send (CTS) or Not-Clear-to-Send (NCTS) message exchanged between a source node and a destination node prior to sending the multimedia (voice, video, data) message. Afterward, an Acknowledgement (ACK) message or Non-Acknowledgement (NACK) message may be sent from the destination node to the source node to indicate reception of the transmitted message. Layered above the MAC Layer 14 is the routing internet protocol (IP) Layer 16, which includes other Internet protocols schemes, such as Internet control message and Internet group management protocol), and transmitting and receiving first MAC layer address to said first packet (paragraph 7, read as transmitting and receiving configuration and application data with Media Access Control (MAC) layer 14. In communication with the IP Layer 16 is the transport layer 18 that defines the method of communicating).

Whitehill discloses the claimed invention except he fails to explicitly teach **adding** said first MAC layer address to said first data packet (Whitehill discloses transmitting and receiving configuration and application data with Media Access Control (MAC) layer 14).

However, Lipasti et al. (hereinafter Lipasti) disclose **adding** said first MAC layer address to said first data packet (paragraph 87, read as some routing protocols provide source routing, i.e. the source node may inquire the path and add routing information extensions (23) to packets describing the path to the destination L2.5 address).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the teachings of Lipasti into the node of Whitehill in order to provide source routing (paragraph 87).

Consider **claim 11**. Whitehill discloses for use in a mobile ad hoc network formed by a plurality of mobile ad hoc network (MANET) nodes (paragraph 28, read as the network 100 can be an ad-hoc packet switched network, which includes a plurality of mobile nodes 102-1), a method of routing data packets in a first MANET node comprising the steps of:

receiving a first data packet from an Internet protocol (IP) layer associated with the first MANET node (paragraphs 8 and 9, read as In communication with the IP Layer 16 is the transport layer 18 that defines the method of communicating);

determining a first medium access control (MAC) layer address associated with the first data packet (paragraph 7, read as the Physical Layer 12 is responsible for transmitting and receiving configuration and application data with the Network Layer or Media Access Control (MAC) layer 14); and

transmitting and receiving first MAC layer address to said first packet (paragraph 7, read as transmitting and receiving configuration and application data with Media Access Control (MAC) layer 14. In communication with the IP Layer 16 is the transport layer 18 that defines the method of communicating).

Whitehill discloses the claimed invention except he fails to explicitly teach **adding** said first MAC layer address to said first data packet (Whitehill discloses transmitting and receiving configuration and application data with Media Access Control (MAC) layer 14).

However, Lipasti et al. (hereinafter Lipasti) disclose **adding** said first MAC layer address to said first data packet (paragraph 87, read as some routing protocols provide source routing, i.e. the source node may inquire the path and add routing information extensions (23) to packets describing the path to the destination L2.5 address).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the teachings of Lipasti into the node of Whitehill in order to provide source routing (paragraph 87).

Consider **claim 2 and as applied to claim 1**. Whitehill discloses the first MANET node wherein said controller determines said first MAC layer address associated with said first data packet by determining a first destination MANET node associated with said first data packet (paragraph 8).

Consider **claim 3 and as applied to claim 2**. Whitehill discloses the first MANET node wherein said controller further determines said first MAC layer address associated with said first data packet by determining a first route coupling said first MANET node and said first destination MANET node (paragraph 8).

Consider **claim 4 and as applied to claim 3**. Whitehill discloses the first MANET node wherein said controller determines said first route by looking up said first route in a routing table associated with said first MANET node (paragraph 29).

Consider **claim 5 and as applied to claim 4**. Whitehill and Lipasti disclose the first MANET node wherein said controller looks up said first route using an IP address associated with said first data packet (Lipasti, paragraphs 10 and 99).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the teachings of Lipasti into the node of Whitehill so that the route can be determined when the RREQ reaches either the destination itself, or an intermediate node with a fresh enough route to the destination (paragraph 99).

Consider **claims 6 and 7 as applied to claims 3 and 6, respectively**. Lipasti discloses the first MANET node wherein said controller forwards said first data packet containing said first MAC layer address to said first destination MANET node by transmitting said first data packet to a next sequential MANET node in said first route and wherein said first MAC layer address is associated with said next sequential MANET node in said first route (paragraph 26).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the teachings of Lipasti into the node of Whitehill in order to route packets inside a mobile ad hoc network (paragraph 26).

Consider **claim 8 and as applied to claim 6**. The combination of Whitehill and Lipasti disclose the first MANET node wherein said controller is further capable of receiving a second data packet from a medium access control (MAC) layer associated with said first MANET node and determining if said second data packet contains a MAC layer address associated with said first MANET node.

Consider **claim 9 and as applied to claim 8**. Whitehill and Lipasti discloses the first MANET node wherein said controller, in response to a determination that said second data packet does contain a MAC layer address associated with said first MANET node, routes said second data packet to a second destination MANET node (Lipasti; paragraph 27).

Consider **claim 10 and as applied to claim 9**. Whitehill and Lipasti disclose the first MANET node wherein said controller, in response to a determination that said second data packet does not contain a MAC layer address associated with said first MANET node, stores Internet protocol (IP) information associated with said second data packet in a routing table associated with said first MANET node (Whitehill; paragraph 29, Lipasti; paragraphs 10 and 99).

Consider **claim 12 and as applied to claim 11**. Whitehill discloses the method wherein the step of determining the first MAC layer address associated with the first data packet comprises the sub-step of determining a first destination MANET node associated with the first data packet (paragraph 8).

Consider **claim 13 and as applied to claim 12**. Whitehill discloses the method wherein the step of determining the first MAC layer address associated with the first data packet further comprises the sub-step of determining a first route coupling the first MANET node and the first destination MANET node (paragraph 8).

Consider **claim 14 and as applied to claim 13**. Whitehill discloses the method wherein the sub-step of determining the first route comprises the sub-step of looking up the first route in a routing table associated with the first MANET node (paragraph 29).

Consider **claim 15 and as applied to claim 14**. Whitehill and Lipasti disclose the method wherein the sub-step of looking up the first route uses an IP address associated with the first data packet (Lipasti; paragraphs 10 and 99).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the teachings of Lipasti into the method of Whitehill so

that the route can be determined when the RREQ reaches either the destination itself, or an intermediate node with a fresh enough route to the destination (paragraph 99).

Consider **claims 16 and 17 and as applied to claims 13 and 16, respectively**. Lipasti discloses the method further comprising the step of forwarding the first data packet containing the first MAC layer address to the first destination MANET node by transmitting the first data packet to a next sequential MANET node in the first route and wherein the first MAC layer address is associated with the next sequential MANET node in the first route (paragraph 26).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the teachings of Lipasti into the method of Whitehill in order to route packets inside a mobile ad hoc network (paragraph 26).

Consider **claim 18 and as applied to claim 16**. The combination of Whitehill and Lipasti disclose the method further comprising the steps of receiving a second data packet from a medium access control (MAC) layer associated with the first MANET node and determining if the second data packet contains a MAC layer address associated with the first MANET node.

Consider **claim 19 and as applied to claim 18**. Whitehill and Lipasti disclose the method further comprising the step, in response to a determination that the second data packet does contain a MAC layer address associated with the first MANET node, of routing the second data packet to a second destination MANET node (Lipasti; paragraph 27).

Consider **claim 20 and as applied to claim 19**. Whitehill and Lipasti discloses the method further comprising the step of, in response to a determination that the second data packet does not contain a MAC layer address associated with the first MANET node, of storing Internet

protocol (IP) information associated with the second data packet in a routing table associated with the first MANET node (Whitehill; paragraph 29, Lipasti; paragraphs 10 and 99).

***Conclusion***

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents  
P.O. Box 1450  
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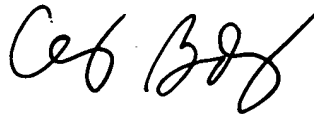
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Brandt whose telephone number is (571) 270-1098. The examiner can normally be reached on 7:30a.m. to 5p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nick Corsaro can be reached on (571) 272-7876. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.



Christopher M. Brandt

C.M.B./cmb

December 28, 2006



NICK CORSARO  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600